

WHAT IS CLAIMED IS:

1. An antibody that recognizes a protein having a polyglutamine expansion, wherein said antibody binds to said protein in a manner that differs from the 1C2 monoclonal antibody.

2. The antibody according to Claim 1, wherein said antibody differs from the 1C2 monoclonal antibody in terms of at least one of specificity, affinity and avidity for said protein.

3. The antibody according to Claim 1, wherein said antibody binds to mutant huntingtin protein.

4. The antibody according to Claim 1, wherein said antibody is produced using a fusion protein of an N-terminal fragment of a mutant human huntingtin protein.

5. The antibody according to Claim 1, wherein said antibody is a monoclonal antibody.

6. A monoclonal antibody that binds to mutant huntingtin protein, wherein said antibody differs from the 1C2 antibody in terms of at least one of specificity, affinity and avidity for said mutant huntingtin protein.

7. The monoclonal antibody according to Claim 6, wherein said antibody recognizes a polyglutamine expansion of said mutant huntingtin protein.

8. A binding fragment or mimetic thereof of an antibody according to Claim 1.

9. A binding fragment or mimetic thereof of an antibody according to Claim 6.

10. A method of determining whether an agent is capable of modulating the binding interaction between a polyglutamine expansion comprising protein and a target of said protein, said method comprising:

5 (a) contacting a first compound that is said protein or a binding fragment or mimetic thereof with:

(i) said agent; and

(ii) a second protein that is an antibody according to Claim 1 or binding fragment or mimetic thereof;

10 (b) detecting the presence of binding complexes comprising said first and second compounds; and

(c) comparing the results of step (b) with a control;

whereby the ability of an agent to modulate the binding interaction between a polyglutamine expansion comprising protein and a target of said protein is determined.

15 11. The method according to Claim 10, wherein said antibody is a monoclonal antibody.

12. The method according to Claim 10, wherein said agent is a small molecule.

20 13. The method according to Claim 10, wherein a plurality of agents are assayed simultaneously.

14. A method for detecting the presence of a polyglutamine expansion comprising protein in a sample, said method comprising:

25 (a) contacting said sample with an antibody according to Claim 1 or a binding fragment or mimetic thereof; and

(b) detecting the presence of a binding complex between said protein and said antibody, binding fragment or mimetic thereof.

30 15. The method according to Claim 14, wherein said polyglutamine expansion comprising protein is a mutant huntingtin protein.

16. The method according to Claim 14, wherein said sample is a physiological sample.

5 17. The method according to Claim 14, wherein said antibody is a monoclonal antibody.

18. The method according to Claim 14, wherein said antibody, binding fragment or mimetic thereof is stably associated with a solid support.

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19. A device for use in determining the presence of a polyglutamine expansion comprising sample in a physiological sample, said device comprising:
an antibody according to Claim 1 or binding fragment or mimetic thereof stably associated with the surface of a solid support.

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20. The device according to Claim 19, wherein said polyglutamine expansion comprising protein is mutant huntingtin protein.

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21. The device according to Claim 19, wherein said antibody is a monoclonal antibody.

22. A method of modulating the intracellular binding activity of a polyglutamine expansion comprising protein in a cell, said method comprising:

25 expressing in said cell a nucleic acid encoding an intrabody having the binding characteristics of an antibody according to Claim 1.

23. The method according to Claim 22, wherein said intrabody at least comprises the V_H and V_L regions of an antibody according to Claim 1.

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24. The method according to Claim 22, wherein said polyglutamine expansion comprising protein is a mutant huntingtin protein.

25. A cell that secretes an antibody according to Claim 1.

26. The cell according to Claim 25, wherein said cell is a hybridoma cell.

27. A pharmaceutical preparation comprising an agent selected from the group consisting of: (a) an antibody according to Claim 1; (b) an antibody binding fragment or mimetic thereof according to Claim 8; and (c) a nucleic acid encoding an intrabody having the binding characteristics of an antibody according to Claim 1.

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